

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

RAILWARE, INC.,

Plaintiff,

-v.-

NATIONAL RAILROAD PASSENGER
CORPORATION, *doing business as* AMTRAK,

Defendant.

22 Civ. 5013 (KPF)

OPINION AND ORDER

KATHERINE POLK FAILLA, District Judge:

Plaintiff Railware, Inc. contends that Defendant Amtrak infringed Railware's patented train traffic control system, which was designed to ensure that railway workers are out of the path of incoming train traffic by permitting a dispatcher to unblock track sections only after workers verify that it is safe to do so. According to Plaintiff, Defendant's own railway control systems infringe its patents by replicating this safety feature without authorization or license. Defendant now moves to dismiss this action on the ground that the relevant patents are directed to an abstract idea and therefore are ineligible for patent protection. Ultimately, the Court cannot agree with Defendant's arguments at this stage of the litigation and on this record, and accordingly it denies Defendant's motion.

BACKGROUND¹

A. Factual Background

1. Plaintiff's Patented Train Traffic Control System

Certain railroad maintenance tasks require workers to physically enter the track area and thereby put themselves directly in the path of potential train traffic. (AC ¶ 13). A worker's failure to timely vacate a track can have devastating — even deadly — consequences. Prior to the advent of centralized train control systems, railroads employed various safety systems, including alarms, to warn workers of approaching trains. (*Id.*).

Centralized control systems made this work safer by consolidating control of railroad tracks in the hands of remote dispatchers. (AC ¶ 14). Such dispatchers can temporarily divert train traffic away from sections of track that are undergoing maintenance by blocking and unblocking track sections. (*Id.*). This system is imperfect, however, inasmuch as “[h]uman error could and did lead to blocks being removed prematurely by the dispatcher, either because the dispatcher falsely believed that the railway work was complete, or because the dispatcher intended to remove a different block and mistakenly removed a block on a track section that was still undergoing work.” (*Id.*).

¹ This Opinion draws its facts from the Amended Complaint (the “AC” (Dkt. #11)), the well-pleaded allegations of which are taken as true for the purposes of this Opinion, and the exhibits attached thereto, including U.S. Patent No. 9,517,782 (the “782 Patent” (Dkt. #11-1)), U.S. Patent No. RE47,835 (the “835 Patent” (Dkt. #11-2)), and U.S. Patent No. RE49,115 (the “115 Patent” (Dkt. #11-3)).

For ease of reference, the Court refers to Defendant's memorandum of law in support of its motion to dismiss as “Def. Br.” (Dkt. #29); to Plaintiff's memorandum of law in opposition as “Pl. Opp.” (Dkt. #31); and to Defendant's reply memorandum as “Def. Reply” (Dkt. #34).

Plaintiff, a New York company, purveys Dispatch X, “one of the premier train traffic control systems in the world.” (AC ¶¶ 11, 46). A notable feature of Dispatch X is a patented safety technology known as the Enhanced Employee Protection System (“EEPS”). (*Id.* ¶ 2 & ¶ 10 n.6). EEPS was created by Railware principal Ross Pirtle to mitigate safety risks to railroad maintenance workers. (*Id.* ¶ 12). EEPS differentiates Dispatch X from other centralized railroad control systems in at least one key respect: rather than localizing control over railroad tracks in a single dispatcher, it “requir[es] railway traffic controllers and employees on the ground to cooperate to lift a block.” (*Id.* ¶ 15). Generally speaking, EEPS functions as follows: each time a dispatcher places a block over a section of railroad track, an electronic system generates a unique code and sends that code to a worker in the field. (*Id.*). The block cannot be removed until the roadway worker sends the code back to the dispatcher. (*Id.*). In theory, this process reduces mistakes and miscommunications in railway control by dividing the power to unblock railroad track sections between workers on the tracks and remote dispatchers.

Plaintiff became the sole owner of two patents related to EEPS through assignment from Pirtle: U.S. Patent Number 9,517,782 (the “’782 Patent”) and U.S. Patent Number 9,403,545 (the “’545 Patent”). (AC ¶ 4). Subsequently, Plaintiffs obtained U.S. Reissue Patents RE47,835 (the “’835 Patent”) and RE49,115 (the “’115 Patent,” and collectively with the other named patents, the “Asserted Patents”), both of which are reissues of the ’545 Patent. (*Id.* ¶¶ 4, 17). Since at least October 21, 2020, Railware has published the patent

numbers of the Asserted Patents in the header bar of its Dispatch X system and on its website. (*Id.* ¶ 30).

Each of the Asserted Patents is “directed to methods and systems for centralized railway control.” (AC ¶¶ 18-20). More specifically, claim 5 of the ’782 Patent teaches a system whereby (i) a roadway worker possesses a device with an interactive user interface that displays information received from a railway control apparatus; (ii) through an interactive terminal, a user can request that the railway control apparatus place a block on one or more specified track sections; (iii) also through that terminal, the railway control apparatus generates a release code and transmits it to an electronic contact address accessible by the roadway worker; and (iv) the railway control apparatus can only remove the block upon receiving the release code from the roadway worker via the terminal. (*Id.* ¶ 19).

Similarly, claim 19 of the ’835 Patent teaches “a railway traffic control apparatus of a centralized railway control system configured for centralized control of traffic of a centrally controllable railway network including plural railways and a plurality of railway traffic interlocks.” (AC ¶ 19). That apparatus is comprised of three components: (i) a user interface of a centralized railway traffic control apparatus that places blocks on one or more specified track sections across the plural railways; (ii) generation of a block removal code and transmission of that code to a unique contact for the relevant railway worker; and (iii) removal of the block only upon entry of the removal code. (*Id.*).

Claim 20 of the '115 Patent is familiar, as it largely tracks the relevant claims of the '782 and '835 Patents. It teaches a centralized control of plural railways, this time through the use of:

[i] a processor for controlling a plurality of track sections in the railway network, wherein each track section is associated with a corresponding interlock and is disposed in any of said plural railways of said railway network that is managed by centralized control operation from the railway control apparatus, the processor controlling, by said centralized control operation, one or more interlocks amongst the plurality of railway interlocks dispersed in said plural railways of said railway network, to block railway traffic to one or more specified track sections; and [ii] a memory device storing computer-executable instructions, wherein execution of the computer-executable instructions by the processor causes the railway control apparatus to: (a) receive a selection of at least one track section amongst the plurality of track sections; (b) transmit a block signal to the corresponding interlock associated with the at least one selected track section, to place a block on the selected track section by said centralized control operation from the railway control apparatus; (c) generate a secret code associated with the at least one selected track section; and (d) transmit the secret code to a remote user terminal.

(AC ¶ 20). As such, although slightly different in detail, each of the Asserted Patents governs a dual-user system for blocking and unblocking railway track sections.²

Plaintiff alleges that the Asserted Patents “fundamentally altered the way that railroads approach railway worker safety” by “convert[ing] what had previously been a single user, single device process into a multi-device process”

² Because of their similarity, the Court refers to the three asserted claims collectively at times.

using a previously unknown algorithm and architecture. (AC ¶ 21). Indeed, federal authorities seem to recognize the significance of EEPS; a 2014 Federal Railroad Administration safety advisory recommends that railroads adopt electronic technology to improve roadway worker safety and cites EEPS as an example of such technology. (*Id.* ¶ 23).

2. Amtrak's Alleged Infringement

Defendant Amtrak is a federally chartered, for-profit corporation incorporated in the District of Columbia. (AC ¶ 7). It operates a nationwide rail network spanning more than 21,400 miles, including much of the Northeast Corridor connecting Boston and Washington, D.C. (*Id.*). As a Class I railroad, Defendant is subject to regulations governing railroad worker safety, including a requirement to provide redundant on-track safety protections. (*Id.* ¶¶ 25-26 (citing 49 C.F.R. § 214.319(b))).

Plaintiff asserts that Defendant's past, present, and intended future centralized railroad control systems include technology that infringes on the Asserted Patents. Since 2008, Collins Aerospace and its corporate predecessors have provided train control services to Defendant, including for the Northeast Corridor. (AC ¶¶ 32-36; *see also id.* ¶ 32 (detailing the ownership history of Collins Aerospace)). Plaintiff alleges that several Collins Aerospace software and/or hardware products utilized by Defendant, including products titled ARINC Railway Net, Integrated Train Control, and AIM, infringe on the Asserted Patents by replicating the patented EEPS system. (*Id.* ¶¶ 34-39).

In recent years, Defendant has replaced, or is in the process of replacing, the Collins Aerospace control system with a proprietary system titled Amtrak Train and Electrification Control (“AMTEC”). (AC ¶¶ 44, 47-50). Plaintiff is not certain when this transition will be complete, but alleges that Defendant allocated \$3.65 million dollars to the conversion project in fiscal year 2019 and \$5.19 million dollars to the same in fiscal year 2020. (*Id.* ¶ 45). According to Defendant’s *Northeast Corridor One-Year Implementation Plan for Fiscal Year 2019*, the AMTEC system will include an enhanced employee protection system that (i) provides roadway workers “with an authorization code that corresponds to the blocking protection applied in the [centralized control system]” and (ii) permits the train dispatcher to remove blocks only after the roadway worker provides them with the authorization code. (*Id.* ¶ 49).

B. Procedural Background

Plaintiff initiated this patent infringement action on June 15, 2022, by filing the Complaint (Dkt. #1), which it amended as of right on June 30, 2022 (Dkt. #11). Plaintiff alleges that both the Collins Aerospace legacy control system and AMTEC, as utilized by Defendant, impermissibly replicate roadway safety innovations protected by the Asserted Patents (specifically, claim 5 of the ’782 Patent, claim 19 of the ’835 Patent, and claim 20 of the ’115 Patent). (*See generally* AC).

On August 29, 2022, in lieu of an answer, Defendant filed a letter detailing the grounds for its anticipated motion to dismiss. (Dkt. #19). Plaintiff filed a response outlining its intended opposition shortly thereafter. (Dkt. #23).

The Court held a conference on September 7, 2022, at which it set a briefing schedule for Defendant's anticipated motion and stayed formal discovery pending the resolution of such motion. (See Minute Entry for Sept. 7, 2022).

Defendant filed its motion to dismiss and accompanying papers on October 6, 2022. (Dkt. #27-30). Plaintiff filed its opposition on November 3, 2022. (Dkt. #31). Briefing was completed on November 17, 2022, when Defendant filed a reply in further support of its motion. (Dkt. #34). On April 27, 2023, Defendant filed a notice bringing to the Court's attention two supplemental authorities decided after briefing concluded. (Dkt. #38). The Court now considers the fully briefed motion.

DISCUSSION

A. Applicable Law

In patent cases such as this one, the Court applies the law of the Federal Circuit to patent issues and Second Circuit law to non-patent issues. See *Berall v. Pentax of Am., Inc.*, No. 10 Civ. 5777 (LAP), 2021 WL 3934200, at *2 (S.D.N.Y. Sept. 2, 2021); accord *In re Cambridge Biotech Corp.*, 186 F.3d 1356, 1368 (Fed. Cir. 1999).

1. Motions to Dismiss Pursuant to Federal Rule of Civil Procedure 12(b)(6)

Federal Rule of Civil Procedure 12(b)(6) provides that an action may be dismissed prior to discovery if the operative pleading "fail[s] to state a claim upon which relief can be granted." Fed. R. Civ. P. 12(b)(6). To survive a Rule 12(b)(6) motion, the plaintiff must plead sufficient factual allegations "to state a claim to relief that is plausible on its face." *Bell Atl. Corp. v. Twombly*, 550 U.S.

544, 570 (2007). A claim is facially plausible “when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). In considering a motion to dismiss, courts must accept as true all well-pleaded factual allegations. *Id.* Courts may consider any written instrument attached to the complaint as an exhibit, any statements or documents incorporated by reference in the complaint, documents that are “integral” to the complaint even if they are not incorporated by reference, and matters of which judicial notice may be taken. *See Chambers v. Time Warner, Inc.*, 282 F.3d 147, 152-53 (2d Cir. 2002); *see generally Goel v. Bunge, Ltd.*, 820 F.3d 554, 559 (2d Cir. 2016) (discussing materials that may properly be considered in resolving a motion brought under Fed. R. Civ. P. 12(b)(6)).

“Patent eligibility under 35 U.S.C. § 101 is a question of law, based on underlying factual findings.” *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1306 (Fed. Cir. 2020) (citing *SAP Am. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018)); *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018) (“While the ultimate determination of eligibility under [Section] 101 is a question of law, like many legal questions, there can be subsidiary fact questions which must be resolved en route to the ultimate legal determination.”). Courts may determine patent eligibility at the Rule 12(b)(6) stage “only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.” *Aatrix Software*, 882 F.3d at 1125. Thus, “plausible factual allegations may preclude

dismissing a case under [Section] 101 where, for example, nothing on the record refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6).” *Id.* (quoting *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016)) (alterations omitted).

2. Patent Eligibility

An inventor may patent “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof,” subject to limitations defined in the Patent Act. 35 U.S.C. § 101. “[T]his provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Ass’n for Molecular Pathology v. Myriad Genetics*, 569 U.S. 576, 589 (2013) (alterations omitted). “These categories of subject matter have been excluded from patent-eligibility because they represent ‘the basic tools of scientific and technological work,’” *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143, 1149 (Fed. Cir. 2019) (quoting *Ass’n for Molecular Pathology*, 569 U.S. at 589), and permitting monopolization of such tools “might tend to impede innovation more than it would tend to promote it,” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012).

Despite the important principles these exceptions serve, courts “tread carefully” in applying them. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). That is because arguably every invention builds upon natural phenomena or abstract concepts to some degree. *Mayo*, 566 U.S. at 71. Applied too strictly, the exceptions could swallow the rule and preclude the

patentability of most creations. *Id.* (“[T]oo broad an interpretation of this exclusionary principle could eviscerate patent law.”). To avoid this harsh result, courts consider whether the claimed invention applies patent-ineligible concepts “to a new and useful end.” *Alice Corp.*, 573 U.S. at 217 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). If so, the application may still be eligible for patent protection.

“To distinguish between eligible and ineligible patent claims, the Supreme Court has fashioned a two-step test” known as the *Alice/Mayo* inquiry. *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1314 (Fed. Cir. 2019) (citing *Alice*, 573 U.S. at 217-18); *see also Mayo*, 566 U.S. at 72-73, 77-79. At the first step of the *Alice/Mayo* inquiry, the Court considers whether the claim is directed to a patent-ineligible concept such as a law of nature, a natural phenomenon, or an abstract idea. *Alice*, 573 U.S. at 218; *see also Koninklijke*, 942 F.3d at 1149 (describing this inquiry as “look[ing] at the focus of the claimed advance over the prior art” (quoting *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016))). “If the claims are not directed to a patent-ineligible concept under *Alice* step [one], the claims satisfy [Section] 101 and [the court] need not proceed to the second step.” *CardioNet, LLC v. InfoBionic Inc.*, 955 F.3d 1358, 1368 (Fed. Cir. 2020) (internal quotation marks omitted) (quoting *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1007 (Fed. Cir. 2018)).

If, however, the claims are directed to a patent-ineligible concept, courts move to *Alice/Mayo* step two and “consider the elements of each claim both

individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application.” *CardioNet*, 955 F.3d at 1368 (internal quotation marks omitted) (quoting *Alice*, 573 U.S. at 217). “This second step is a search for an inventive concept — *i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.” *Id.* (internal quotation marks omitted) (quoting *Alice*, 573 U.S. at 217-18).

For a claim to include an “inventive concept,” it must “involve more than performance of well-understood, routine, and conventional activities previously known to the industry.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (quoting *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l. Ass’n*, 776 F.3d 1343, 1347-48 (Fed. Cir. 2014)), *cert. denied*, 140 S. Ct. 911 (2020); *see also In re Rudy*, 956 F.3d 1379, 1385 (Fed. Cir. 2020). This inquiry presents two further questions. The first is “whether each of ‘the elements in the claimed product (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field[.]’” *Chamberlain Grp. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1349 (Fed. Cir. 2019) (alterations omitted) (quoting *Mayo*, 566 U.S. at 73). The second is “whether all of the steps ‘as an ordered combination add nothing to the laws of nature that is not already present when the steps are considered separately[.]’” *Id.* (alterations and emphasis omitted) (quoting *Mayo*, 566 U.S. at 79).

3. Enhanced Damages for Willful Infringement

If a patent infringement plaintiff is awarded damages, a court may in its discretion “increase the damages up to three times the amount found or assessed” by the jury or the court. 35 U.S.C. § 284. Enhanced damages are not appropriate in all cases, however, and are reserved for “egregious cases of misconduct beyond typical infringement.” *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 110 (2016). The Supreme Court has not defined egregious misconduct, except to say that qualifying conduct includes infringement that is “willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or — indeed — characteristic of a pirate.” *Id.* at 103-04.

Willfulness is a subjective inquiry that centers on the infringer’s knowledge at the time of infringement. *Halo Elecs.*, 579 U.S. at 105-06; *see also Bayer HealthCare LLC v. Baxalta Inc.*, 989 F.3d 964, 987 (Fed. Cir. 2021) (“To establish willfulness, the patentee must show the accused infringer had a specific intent to infringe at the time of the challenged conduct.”). “Knowledge of the asserted patent and evidence of infringement is necessary, but not sufficient, for a finding of willfulness. Rather, willfulness requires deliberate or intentional infringement.” *Id.* at 988; *see also WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1341 (Fed. Cir. 2016) (“Knowledge of the patent alleged to be willfully infringed [is] a prerequisite to enhanced damages.”). A defendant’s continuation of allegedly infringing activity after receiving an explanation of how their activity infringes the patent-in-suit is sufficient to plausibly allege deliberate or intentional infringement. *See Berall*, 2021 WL 3934200, at *9-

10 (holding that deliberate infringement was adequately pleaded where plaintiff alleged that defendant continued to manufacture the accused product despite being aware of the patent and of defendant's alleged infringement of it); *APS Tech., Inc. v. Vertex Downhole, Inc.*, No. 19 Civ. 1166 (MN), 2020 WL 4346700, at *8 (D. Del. July 29, 2020) ("Plaintiff has plausibly alleged that Defendants continued their purported infringement after receiving a letter from Plaintiff outlining how Defendants infringed the [patent-in-suit], and a plausible inference from the continued activity is that it was intentional or deliberate[.]").

B. Plaintiff Has Adequately Alleged That the Asserted Claims Are Directed to Patentable Subject Matter

Defendant challenges Plaintiff's claimed innovations in railway safety — specifically, claim 5 of the '782 Patent, claim 19 of the '835 Patent, and claim 20 of the '115 Patent³ — as being directed at abstract ideas, which are ineligible for patent protection. Because the claims are in fact directed to using a specific technique to solve the problem of trains entering sections of track on which workers are performing maintenance — namely, arming railway workers with an interactive device that provides them with a unique release code that they must send to central control to remove a railroad block — the Court finds

³ The Court does not consider other claims that are not mentioned in the Amended Complaint and are discussed for the first time in Plaintiff's opposition brief (see Pl. Opp. 6, 20), except to the extent that they are useful in understanding the meaning of the asserted claims, see *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) ("Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term." (collecting cases)).

the subject matter to be arguably patentable and denies Defendant's motion to dismiss.

Before explaining why, the Court addresses the parties' antecedent dispute regarding how much weight (if any) the Court should give in the *Alice/Mayo* inquiry to the fact that the U.S. Patent and Trademark Office (the "USPTO") has issued patents for Plaintiff's claimed innovation. On this point, Plaintiff requests that the Court consider that the USPTO has "thoroughly vetted" the Asserted Patents numerous times since the *Alice* decision and has never rejected them (Pl. Opp. 3-4), while Defendant maintains that the issuance of a patent is irrelevant to the Section 101 inquiry (Def. Br. 9).

The answer falls somewhere between those poles. Although patents are presumed to be valid, see 35 U.S.C. § 282(a), that presumption is fallible. After all, "Congress has elected not to make the issuance of a patent conclusive but, rather, subject to validation or invalidation in court proceedings." *In re Cipro Cases I & II*, 61 Cal. 4th 116, 143 (2015). And the Court has good reason not to defer reflexively to the USPTO's reasoning; that Office has limited time and resources to make validity determinations. See Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 N.W. U. L. REV. 1495, 1531-32 (2001) ("The PTO is rationally ignorant of the objective validity of the patents it examines. For the PTO to gather all the information it needs to make real validity decisions would take an enormous investment of time and resources. Those decisions can be made much more efficiently in litigation, because only a tiny percentage of patents are ever litigated or even licensed to others. Thus, we

should resign ourselves to living with a system in which ‘bad’ patents do slip through the PTO undetected.”). Perhaps recognizing this, Congress has fashioned a system in which the Court assumes and respects the validity of duly-issued patents until convinced otherwise by an adverse party. See 35 U.S.C. § 282(a) (“The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.”).

As a result, the Court gives no weight to the fact of the Asserted Patents’ issuance beyond holding Defendant to its burden. See *Aftechmobile Inc. v. Salesforce.com, Inc.*, No. 19 Civ. 5903 (JST), 2020 WL 6129139, at *9 (N.D. Cal. Sept. 2, 2020) (“[P]rior determinations by the USPTO regarding novelty have no bearing on whether the asserted claims are patent-eligible under § 101[.]” (alterations omitted)); see also *SAP Am., Inc.*, 898 F.3d at 1163 (“Nor is it enough for subject-matter eligibility [under § 101] that claimed techniques be novel and nonobvious in light of prior art, passing muster under 35 U.S.C. §§ 102 and 103.”). With that threshold issue settled, the Court turns to the *Alice/Mayo* analysis.

1. Abstract Idea

The first step of the patent eligibility analysis is determining whether the claim is “directed to” a patent-ineligible concept such as a law of nature, a natural phenomenon, or an abstract idea. *Alice*, 573 U.S. at 218. In Defendant’s view, the Asserted Patents are ineligible for protection because they are directed at the abstract concept of “generat[ing] and communicat[ing] data such as a code or identifier over a network for controlling items or

devices.” (Def. Br. 10). Plaintiff responds by framing the claimed innovations at a much more granular level, describing them instead as a “specific technological solution to the problem of erroneously released blocks on tracks in a centralized railway control system.” (Pl. Opp. 7).

Importantly, a claim is not excluded from protection simply because it incorporates a patent-ineligible concept. Instead, the Court’s task at *Alice/Mayo* step one is to “determine whether that patent-ineligible concept is what the claim is ‘directed to.’” *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (quoting *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016)). In other words, the Court considers “whether the[] character [of the claim] as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (describing the step one inquiry “as looking at the ‘focus’ of the claims” (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-36 (Fed. Cir. 2016))).

Defendant is correct that the Asserted Patents implicate the abstract concept of devices communicating over a network. It has long been the law of the Federal Circuit that “communicating requests to a remote server and receiving communications from that server, *i.e.*, communication over a network,” is not a patentable process. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019); *see also Ericsson Inc. v. TCL Commc’n Tech. Holds. Ltd.*, 955 F.3d 1317, 1327 (Fed. Cir. 2020) (“[W]e have repeatedly found

the concept of controlling access to resources via software to be an abstract idea.” (citing *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1371 (Fed. Cir. 2017); *Prism Techs. LLC v. T-Mobile USA, Inc.*, 696 F. App’x 1014, 1017 (Fed. Cir. 2017) (unpublished decision); *Smartflash LLC v. Apple Inc.*, 680 F. App’x 977 (Fed. Cir. 2017) (unpublished decision)); *see also DDR Holds., LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (distinguishing between claims that merely use computer networks to perform a known business practice and those aimed at “overcom[ing] a problem specifically arising in the realm of computer networks”). By providing for the transfer of a code from a central railway control apparatus to a device in the possession of a roadway worker and the later transfer of the code back to the central apparatus (*see* ’782 Patent, claim 5; ’835 Patent, claim 19; ’115 Patent, claim 20), the Claimed Patents undisputedly implicate an element of network communication.

But this mere inclusion of an abstract idea in a claimed invention is not necessarily fatal to a patent claim. *See Enfish, LLC*, 822 F.3d at 1335 (“The ‘directed to’ inquiry, therefore, cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon — after all, they take place in the physical world.”). Rather, the Court must proceed to consider whether despite the use of this abstract concept, the asserted claims nonetheless provide for an innovative method of achieving a specific result. *See Cardionet, LLC*, 955 F.3d at 1368

(prompting courts to “look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery” (internal quotation marks omitted)); *see also EcoServices, LLC v. Certified Aviation Serv., LLC*, 830 F. App’x 634, 642 (Fed. Cir. 2020) (unpublished decision) (differentiating between claims that “recite the mere desired result of [an abstract idea]” and those that “recite a specific solution for accomplishing that goal”). If so, they may be directed to a patent-eligible concept despite the inclusion of an unprotectable element.

The Court finds that to be the case here, especially when taking the facts in the light most favorable to Plaintiff, the non-moving party. The asserted claims do not merely introduce a network component to railroad control, nor do they simply describe a process for achieving an abstract end. Instead, they modify traditional centralized railroad control systems by dividing control of the blocking and unblocking process between a central dispatcher and workers in the field, who previously played no role in railway control processes to solve the specific problem of central dispatchers erroneously removing blocks prematurely. (See ’782 Patent, claim 5 (describing EEPS as “[a] method to enhance railway control [and] to protect safety of railway workers on or near railway tracks)). And according to Plaintiff, the addition of a user terminal to achieve this end “had never before been a part of centralized railway control systems.” (Pl. Opp. 7).

Contrary to Defendant’s assertion, the Asserted Patents do more than “string[] together generic allegations without describing *how* the alleged invention is accomplished.” (See Def. Br. 17). The specifications set forth how the EEPS system improves on previously known centralized railroad control systems. Claim 5 of the ’782 Patent, for instance, not only states that railway workers will have a role in the blocking and unblocking process, but also describes that role and how it is accomplished: that worker will possess a “mobile user device” with an interface that both displays information received from a central railway control apparatus (including release codes generated by that apparatus) and permits the worker to respond to prompts thereon, including by sending the release code back to the central dispatcher. (’782 Patent, claim 5; *see also* ’835 Patent, claim 19; ’115 Patent, claim 20). By isolating terms like “providing,” “configuring,” and “generating” in the claim and specification language (*see* Def. Br. 15), Defendant misses the forest for the trees. *See CardioNet*, 955 F.3d at 1371 (cautioning courts against “oversimplifying” asserted claims). While it is true that the specifications use these terms, they do so to “describe[] a specific improvement” in centralized railroad control “by recit[ing] a means particular to computers that solves a problem in an existing technological process”; they do not merely claim a desired result. *See Grecia v. Bank of N.Y. Mellon Corp.*, 456 F. Supp. 3d 525, 531 (S.D.N.Y. 2020); *see also SRI Int’l Inc., v. Cisco Sys., Inc.*, 930 F.3d 1295, 1303 (Fed. Cir. 2019) (determining that claims directed to using a “specific

technique” to address weaknesses in conventional networks were directed at patent-eligible subject matter).

The cases on which Defendants rely do not require a contrary finding. In *ChargePoint, Inc. v. SemaConnect, Inc.*, the Federal Circuit considered whether a proposal to connect electric vehicle charging stations to a central network that allowed drivers, utilities, and others to communicate with one another in real time was not directed at a patentable subject. 920 F.3d 759 (Fed. Cir. 2019). The *ChargePoint* Court emphasized that the patent was directed at “nothing more than the abstract idea of communication over a network for interacting with a device, applied to the context of electric vehicle charging stations.” *Id.* at 768. The specification did not suggest a technical improvement or operational change to the charging stations themselves, nor did it overcome a technical difficulty in adding networking capability to charging stations. *Id.* Put differently, “the problem perceived by the patentee was a lack of a communication network [across] charging stations,” and its patent provided for just that. *Id.* Not so here. Unlike the network at issue in *ChargePoint*, Plaintiff’s idea causes a railroad control system to “operate differently than it otherwise could” — while conventional railroad control systems operate by a single command point, the EEPs system anticipates the addition of an interactive user terminal that distributes control between the central command and the individual railroad worker. *Id.* In short, the idea in *ChargePoint* was a network itself, while Plaintiff’s idea adds redundancy to a system for railway worker safety, only in part through use of a network.

Defendant next invokes *Universal Secure Registry LLC v. Apple Inc.*, a case involving a method for credit card users to make purchases by providing a merchant a one-time code in lieu of the purchaser's personal financial information (*i.e.*, their credit card number). 10 F.4th 1342, 1348 (Fed. Cir. 2021). The Federal Circuit determined this innovation to be directed to an abstract idea because it “simply recite[d] conventional actions [of verifying a customer's identity and allowing a transaction] in a generic way.” *Id.* at 1349 (quoting *Solutran, Inc. v. Elavon, Inc.*, 93 F.3d 1161, 1168 (Fed. Cir. 2019)); *see also Smart Sys. Innovations*, 873 F.3d at 1364 (holding the same for system that allowed bankcard payment for entry into subway system). *Universal Secure* does not stand for the rule that electronic systems that generate single-use codes cannot ever be patented; rather, the fault in the claimed invention was its failure to improve the underlying technology or computer functionality. *Universal Secure*, 10 F.4th at 1350. And in fact, *Universal Secure* identified *Ancora Technologies, Inc. v. HTC America, Inc.*, 908 F.3d 1343 (Fed. Cir. 2018), as an example in which a patent involving a generative code system (in that case, time-varying multicharacter codes to protect certain software from hacking) *was* patent-eligible because it was directed at solving a “specific computer problem” in a way that had not been done before. *Id.* at 1349-50. The instant claims are more akin to those in *Ancora* than those in *Universal Secure*; they do not merely suggest a new way to apply a conventional system, but rather transform the technology underlying that system in way that (if the facts bear out Plaintiff's telling) a jury could find was unique.

PersonalWeb Technologies v. Google LLC, 8 F.4th 1310 (Fed. Cir. 2021), is similarly distinguishable. There, an inventor patented several data-processing systems that used mathematical algorithms to assign unique labels to data points based on their content, then used those labels to store, retrieve, and delete data. *Id.* at 1312-13. In Defendant’s view, “[t]he claims found ineligible as abstract in *PersonalWeb* mirror the Asserted Claims because both generate and communicate an identifier or code using a network to grant/deny access to data items in *PersonalWeb* or to block/unblock access to a track section here.” (Def. Br. 14). The Court struggles to see the analogy. The identifiers in *PersonalWeb* were meant to categorize and keep data organized over time and thus were tied to the content they represent, while the codes generated by EEPS are single-use identifiers meant to verify that a block can be safely lifted. What is more, Defendant overlooks the core reasoning of *PersonalWeb*; that decision turned on the fact that the patented systems’ digitized labeling and sorting functions could be performed in the human mind or with pen and paper, and thus were targeted at “mental processes” — a “telltale sign of abstraction.” *PersonalWeb*, 8 F.4th at 1316. Defendant does not suggest that a cooperative system designed to prevent miscommunications through built-in redundancies is similarly an unpatentable mental function.

Defendant’s analogy to *Intellectual Ventures I LLC v. Symantec Corp.*, which considered in relevant part a patented system for filtering emails for unwanted content, also fails. *See* 838 F.3d 1307, 1314 (Fed. Cir. 2016). As in *PersonalWeb*, the claimed invention provided a system for identifying and

sorting objects based on their content. And as in *PersonalWeb*, those functions merely digitized a longstanding, manual practice (discarding certain pieces of paper mail without opening them based on visible characteristics). *Id.* From *PersonalWeb* and *Symantec*, it is clear that systems that filter items based on their content are directed to an abstract idea. But for the reasons just explained, the codes at issue in the Asserted Patents play a different role.

Because they are not directed to an abstract concept, the Asserted Patents are potentially patent-eligible and withstand the first step in the *Alice/Mayo* inquiry. While Plaintiff's invention implicates the abstract concept of sending computer-generated codes across a network, that concept is not the focus of Plaintiff's claims. Taken as a whole, Plaintiff provides a technological solution to the problem of trains entering tracks before railway workers have vacated them: including those workers in the process of blocking and unblocking tracks through the additional of a personalized, interactive user interface and code system to conventional centralized railroad control systems. In short, because the Asserted Patents not only describe a desired result, but explain how to achieve it, Plaintiff has stated a claim sufficient to withstand a motion to dismiss.

2. Inventive Concept

Because Plaintiff has adequately alleged that the Asserted Patents are not primarily directed to an abstract idea, the eligibility issue can be resolved at *Alice/Mayo* step one and the Court need not reach the second step. *See SRI Int'l*, 930 F.3d at 1304 ("Because we conclude that the claims are not directed

to an abstract idea under step one of the *Alice*[/*Mayo*] analysis, we need not reach step two.” (citing *Enfish*, 822 F.3d at 1339)). The Court notes briefly, however, that it would reach the same conclusion were it to accept Defendant’s argument that the Asserted Patents are directed at the abstract concept of communicating ideas over a network and proceed to step two.

At the second step of the *Alice*/*Mayo* inquiry, the inquiry shifts from the overall focus of a claim to “the elements of each claim both individually and as an ordered combination,” so that the court may determine whether those elements “transform the nature of the claim into a patent-eligible application.” *Alice*, 573 U.S. at 217 (internal quotation marks omitted); see also *Alstom S.A.*, 830 F.3d at 1353 (describing the first-stage inquiry as “looking at the ‘focus’ of the claims, their ‘character as a whole,’ and the second-stage inquiry (where reached) as looking more precisely at what the claim elements add”). This step is “a search for an inventive concept — *i.e.*, an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.” *Id.* at 217-18 (internal quotation marks omitted). It is satisfied “when the claim limitations involve more than performance of well-understood, routine, and conventional activities previously known to the industry.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (internal quotation marks omitted).

An inventive concept cannot transform an abstract idea into a patent-eligible application of that idea if “the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract

application realm.” *SAP Am.*, 898 F.3d at 1163. That is, “[i]f a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290-91 (Fed. Cir. 2018).

Defendant maintains that the Asserted Patents lack the requisite element of inventiveness because they use generic computer network components to achieve an abstract end. (Def. Br. 20). It is true that the “[t]he introduction of a computer into the claims does not alter the analysis at *Mayo* step two.” *Alice*, 573 U.S. at 222; *see also ChargePoint*, 920 F.3d at 774-75 (faulting patent claims at step two for “do[ing] nothing to improve how charging stations function [and] instead, ... merely add[ing] generic networking capabilities to those charging stations and say[ing] ‘apply it’”).

But Plaintiff asserts — and accepting the Amended Complaint’s well-pleaded allegations, the Court is inclined to agree — that the Asserted Patents do much more than that. By introducing a process for generating and transmitting release codes to track workers and thereby introducing a dual-control model for railroad control, Plaintiff alleges that the EEPS system does what no other centralized railroad control system had done before. (*See, e.g.*, AC ¶ 21 (“[T]he Asserted Patents introduced a new architecture and algorithm for placing and releasing blocks that was hitherto unknown. This change requires the restructuring of communications into an unconventional arrangement and introduces new communications to the technological

environment never before used in railway safety technology.”); Pl. Opp. 17 (“Prior art systems placed the sole power to place and remove blocks with the remote dispatcher. Thus, there was *no need* to generate or transmit release codes to the railway worker on the tracks to a user terminal, nor was there a need to have any of the new architecture or new components to do so.” (internal citations omitted))). A jury may ultimately disagree. But “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact,” *Berkheimer*, 881 F.3d at 1368, and thus is not susceptible to resolution on a motion to dismiss.

C. Plaintiff Has Adequately Alleged Willful and Indirect Infringement

The remaining issue concerns the scope of damages available to Plaintiff if its infringement claims are ultimately successful. Plaintiff asserts that Amtrak’s infringement of the Asserted Patents was “willful and deliberate,” at least for the period following October 21, 2020 (when Plaintiff posted identifying information for the asserted patents on its website), or alternatively, June 15, 2022 (when Plaintiff filed this action). (AC ¶¶ 127, 210). For this willfulness, Plaintiff seeks treble damages pursuant to 35 U.S.C. § 284. (*Id.* ¶ 131 (Request for Relief)). Defendant moves for dismissal of Plaintiff’s claim of willfulness on the ground that Plaintiff failed to allege that Defendant had actual knowledge of Plaintiff’s patents before this suit was filed. (Def. Br. 23-25). Plaintiff responds that pre-suit knowledge is not required where

willfulness can be established by continued infringement post-suit. (Pl. Opp. 22-25).

As noted, a court retains the discretion to increase a damages award in a patent infringement action by up to three times the amount of actual damages in cases that present “egregious” circumstances “beyond typical infringement.” *Halo Elecs.*, 579 U.S. at 110. Knowledge of the patent alleged to be willfully infringed is necessary, but not sufficient, to qualify for an enhanced award. *See WBIP, LLC*, 829 F.3d at 1341. The patent plaintiff must allege not only that the infringing party knew of the plaintiff’s patent, but also that the party infringed the patent willfully, meaning through “willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, [or] flagrant” conduct. *Halo Elecs.*, 579 U.S. at 103-04.

The parties now seem to agree that Plaintiff’s pre-suit publication of the relevant patent numbers on its website cannot alone justify an enhanced award. (*See generally* Pl. Opp. 22-25; Def. Reply 10). The Court also agrees, as publication of Plaintiff’s patent numbers on its website is not enough alone to plausibly plead that Defendant was aware of the Asserted Patents. *See Therabody, Inc. v. Tzumi Elecs.*, No. 21 Civ. 7803 (RWL) (PGG), 2022 WL 17826642, at *6-9 (S.D.N.Y. Dec. 19, 2022) (finding allegation of pre-suit knowledge based on online patent marking, parties’ competitor status, and patent plaintiff’s industry reputation insufficient to survive motion to dismiss); *cf. Bobcar Media, LLC v. Aardvark Event Logistics, Inc.*, No. 16 Civ. 855 (JPO), 2017 WL 74729, at *6 (S.D.N.Y. Jan. 4, 2017) (deeming allegation that patent

plaintiff sent defendant multiple pre-suit letters describing alleged infringement enough to plead knowledge).

As explained, even if Defendant were (or should have been) aware of the Asserted Patents as early as October 2020 from Plaintiff's website, knowledge of the existence of a patent "*and nothing more*" does not warrant a claim for treble damages. *Halo Elecs.*, 579 U.S. at 110 (Breyer, J., concurring) (emphasis in original). To survive a motion to dismiss allegations of willful infringement, Plaintiff must also "plausibly allege that the accused infringer deliberately or intentionally infringed a patent-in-suit after obtaining knowledge of that patent and its infringement." *Berall*, 2021 WL 3934200, at *9.⁴ The Amended Complaint contains no such allegation.

The viability of Plaintiff's willfulness claim thus depends on whether Defendant's continued infringement after the commencement of this litigation was so egregious as to warrant a punitive sanction. Plaintiff's theory is that its June 15, 2022 filing of the initial complaint in this action gave Defendant actual knowledge of the Asserted Patents. (AC ¶ 210). District courts are divided on whether a complaint can provide the knowledge required to support

⁴ The Court notes that Plaintiff need not specify the specific aggravating circumstances warranting enhanced damages at this stage of the proceeding. *Berall v. Pentax of Am., Inc.*, No. 10 Civ. 5777 (LAP), 2021 WL 3934200, at *4 n.6 (S.D.N.Y. Sept. 2, 2021) ("Because ... egregiousness only becomes relevant after the jury has found willfulness ... alleging egregiousness is not necessary at the pleadings stage."); accord *Sonos, Inc. v. Google LLC*, 591 F. Supp. 3d 638, 644-45 (N.D. Cal. 2022) ("[O]nce willfulness is adequately pled, the complaint need not go further and specify the further aggravating circumstances warranting enhanced damages," because "[i]t would be unreasonable to expect patent plaintiffs to be in a position to plead the full extent of egregious misconduct" (emphasis omitted)). The Court's conclusion is instead based solely on Plaintiff's meager allegations as to pre-suit knowledge and lack of allegations regarding pre-suit willfulness.

a willfulness finding. *Compare Kaufman v. Microsoft Corp.*, No. 16 Civ. 2880 (AKH), 2020 WL 364136, at *4 (S.D.N.Y. Jan. 22, 2020) (concluding as a matter of law that a complaint cannot be the basis of qualifying knowledge), *with Huawei Tech. Co. v. T-Mobile US, Inc.*, No. 16 Civ. 52 (JRG) (RSP), 2017 WL 1129951, at *4 (E.D. Tex. Feb. 21, 2017) (T]here is nothing in *Halo* suggesting that pre-suit knowledge is required for willfulness. In fact, *Halo* recognizes that culpability is generally measured against the knowledge of the actor at the time of the challenged conduct. Culpability can arise pre- or post-suit — the scienter requirement is the same in either instance. The contrary conclusion would permit the very type of culpable behavior admonished by the Supreme Court in *Halo* simply because of timing. Such a conclusion is inconsistent with the flexibility provided by *Halo*[(.]” (internal quotation omitted)), *report and recommendation adopted*, 2017 WL 1109875 (E.D. Tex. Mar. 24, 2017). The Federal Circuit has not opined on the question.

The Court agrees with Magistrate Judge Lehrburger’s thoughtful explanation of why the filing of an *amended* complaint, as Plaintiff did here, can supply the knowledge required for enhanced damages. *See Therabody*, 2022 WL 17826642, at *9-12. This approach is consistent with the widely-accepted practice of establishing knowledge through service of an earlier complaint in the induced infringement context, accords with the Federal Circuit’s apparent recognition of post-suit willfulness claims in *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1295-96 (Fed. Cir. 2017), and recognizes that the Supreme Court’s decision in *Halo* rejected the use of bright-

line rules in the enhanced damages analysis in favor of a more flexible, fact-focused approach. *Therabody*, 2022 WL 17826642, at *9-12. This is the majority practice in this District and beyond post-*Halo*. *Id.* at *10 (collecting cases).

Accepting that premise, the Court concludes that Plaintiff's allegations regarding Defendant's conduct during this litigation are sufficient at this stage to state a claim for willfulness. The original complaint informed Defendant of which patents it is accused of infringing and what that infringement entailed; if Plaintiff's view is credited, Defendant continued to infringe those patents following Plaintiff's June 30, 2022 filing of the Amended Complaint and indeed, to this day. (See AC ¶¶ 124-128). *See also Therabody*, 2022 WL 17826642, at *6 (“[T]he [amended complaint]’s allegations of [defendant’s] knowledge of the [s]ubject [p]atents and alleged infringement thereof based on prior pleadings ... and of deliberate continuing infringement after acquiring that knowledge, are sufficient to state claims of willful infringement of the [s]ubject [p]atents.”); *Tonal Sys., Inc. v. iFIT Inc.*, No. 20 Civ. 1197 (LPS), 2022 WL 951549, at *2-3 (D. Del. Mar. 30, 2022); *Merrill Mfg. Co. v. Simmons Mfg. Co.*, 553 F. Supp. 3d 1297, 1305 (N.D. Ga. 2021) (both reaching same conclusion on similar facts). Plaintiff may ultimately fail to persuade a jury that Defendant's post-suit conduct was so egregious as to merit an enhanced sanction. But at a minimum, Plaintiff is entitled to an opportunity to prove the pirate-like nature of Defendant's ongoing infringement.

CONCLUSION

For the reasons detailed above, Defendant's motion to dismiss for lack of patent-eligible subject matter is DENIED, and Plaintiff's infringement and post-suit willfulness claims may proceed to discovery. Defendant is ORDERED to file an answer on or before **September 13, 2023**. Additionally, the parties are ORDERED to confer and submit a joint case management plan on or before **September 27, 2023**.

The Clerk of Court is directed to terminate the motion at docket entry 27.

SO ORDERED.

Dated: August 23, 2023
New York, New York



KATHERINE POLK FAILLA
United States District Judge